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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,758	01/22/2004	Ik-Soo Lee	21C-0018-P	7540

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EXAMINER	
DUONG, THOI V	

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

HA

Office Action Summary	Application No.	Applicant(s)	
	10/763,758	LEE ET AL.	
	Examiner	Art Unit	
	Thoi V. Duong	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4,8-10 and 13-20* is/are pending in the application.

4a) Of the above claim(s) *16-20* is/are withdrawn from consideration.

5)☒ Claim(s) *1,4,10 and 13* is/are allowed.

6)☒ Claim(s) *8,9,14 and 15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 10/244,492.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the Amendment filed March 15, 2006.

Accordingly, claims 1, 4, 8, 10 and 13-15 were amended, and claims 2, 3, 5-7, 11 and 12 were cancelled. Currently, claims 1, 4, 8-10 and 13-20 are pending in this application; of these claims, claims 16-20 were withdrawn and claims 1, 4, 8-10 and 13-15 are considered in this office action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 8 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The specification does not disclose a light guide plate comprising a light reflecting surface on which a light reflecting pattern is formed, wherein the light reflecting pattern includes a plurality of light reflecting sections protruding from the light reflecting surface. In fact, as shown in Fig. 11, a light reflecting surface is a light reflecting pattern including a plurality of light reflecting sections 296 comprising a first light reflecting plane 292 and a second light reflecting plane 294.

In the following rejection, the Examiner will interpret the claimed invention as the light reflecting surface comprising a light reflecting pattern to reflect the light provided from the light incident portion, wherein the light reflecting pattern includes a plurality of protrusions.

Claims 9 and 15 are also rejected since they are dependent on the indefinite claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 8 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Yang et al. (Yang, USPN 6,323,919 B1).

As shown in Figs. 1 and 2, Yang discloses a liquid crystal display device comprising:

a lamp assembly 32, 34 to generate light in a linear direction,

a display panel assembly 10 to display images using image data externally provided (inherently) and light provided in a planar direction (Fig. 1B), and

a light guiding plate 20 comprising:

a light incident portion (left surface of the light guiding plate 20 in Figs. 1A and 1B) into which the light is incident from the lamp assembly 32, 34;

a light reflecting surface comprising a light reflecting pattern 12 formed to reflect the light provided from the light incident portion; and

a light transmitting surface (rear surface of the light guiding plate 20 in Figs. 1A and 1B) to transmit the light reflected by the light reflecting pattern 12 to the display panel assembly 10,

wherein the light reflecting pattern 12 (prism unit) includes a plurality of light reflecting sections or protrusions, each of the light reflecting sections comprising:

a first light reflecting plane 15 that is inclined with respect to the light transmitting surface to face toward the light source 32; and

a second light reflecting plane 14 that is inclined with respect to the light transmitting surface and connected with an edge of the first light reflecting plane 15 so that the light reflection sections each form a prism shape, the light reflecting sections respectively having the second light reflecting planes 14 that are configured to have different areal sizes to control reflectivity of the respective light reflecting sections (col. 4, line 64 through col. 5, line 15).

wherein the areal sizes of the light reflecting sections are gradually increased by a selected amount such that the areal sizes of the first reflecting planes 15 and the second light reflecting plane 14 are larger as the light reflecting section is remoter from the light incident portion (col. 4, line 64 through col. 5, line 15).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 8, 9, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chao-Ching et al. (Chao-Ching, USPN 6,168,281 B1).

Re claims 8 and 14, as shown in Figs. 7, 8 and 10 (Fig. 7 is annotated below), Chao-Ching discloses a liquid crystal display device comprising:

a lamp assembly 5 to generate light in a linear direction;

a display panel assembly (not shown) (col. 1, lines 15-19); and

a light guide plate comprising:

a light incident portion (in front of light source 5 in Figs. 2-4) into which the light is incident from a light source 5,

a light reflecting surface comprising a light reflecting pattern 21 formed to reflect the light reflecting pattern from the light incident portion (Fig. 7); and

a light transmitting surface (right below a diffusing sheet 3 in Fig. 7) to transmit the light reflected by the light reflecting pattern to the display panel assembly (Fig. 7 and col. 1, lines 15-19),

wherein the light reflecting pattern includes a plurality of light reflecting sections 21 (convex diffusion units), each of the light reflecting protruding sections comprising:

a first light reflecting plane 211 that is inclined with respect to the light transmitting surface to face toward the light source 5, and

a second light reflecting plane 211' that is inclined with respect to the light transmitting surface and connected with an edge of the first light reflecting plane 211 so that the light reflecting sections each form a prism shape, the light reflecting sections 21 respectively having the second light reflecting planes 211' that are configured to have different areal sizes to

control reflectivity of the respective light reflecting sections (Figs. 7, 8 and 10; col. 1, lines 50-53, col. 2, lines 59-64 and col. 3, lines 11-16),

wherein, as shown in Figs. 7, 8 and 10, the areal sizes of the light reflecting sections 21 are gradually increased by a selected amount such that the areal sizes of the first light reflecting plane 211 and the areal size of the second light reflecting plane 211' are larger as the light reflecting section is remoter from the light incident portion 3 (col. 3, lines 11-16).

Although the display panel assembly is not shown, Chao-Ching discloses that the backlight source device is used for a display panel such as LCD's (col. 1, lines 15-19). Fig. 7 of Chao-Ching also shows that light is provided in a planar direction. Thus, it is obvious to one having ordinary skill in the art that the light guide plate of Chao-Ching is to be used for a display panel such as LCD to display images using image data externally provided (col. 1, lines 15-19).

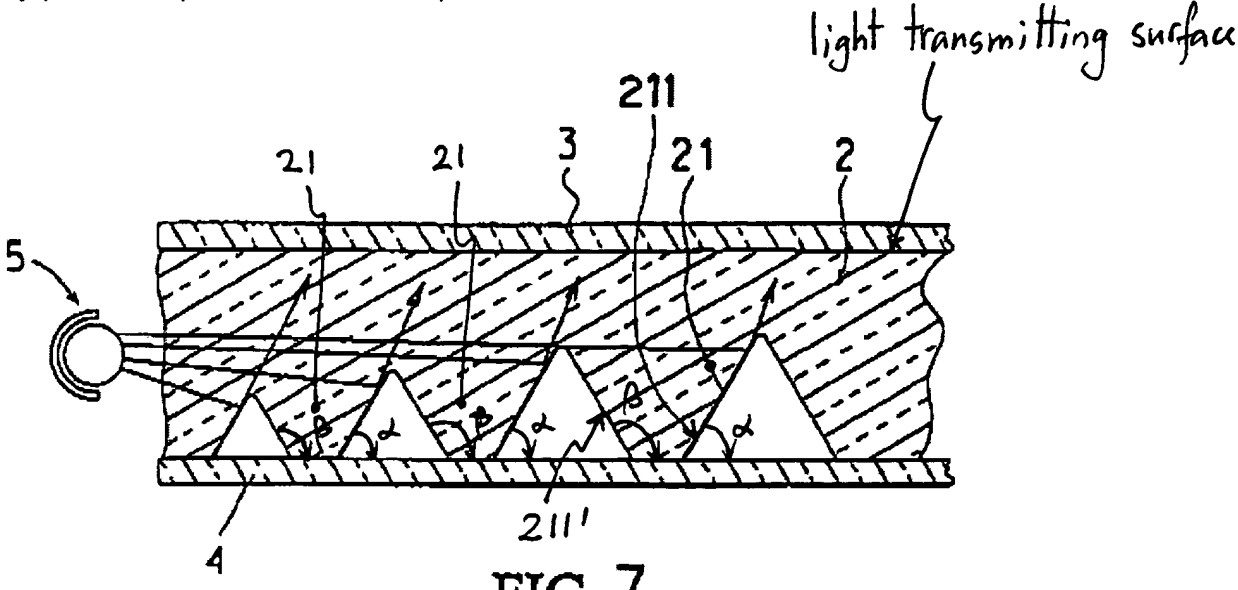

FIG. 7

Re claims 9 and 15, as shown in the annotated Fig. 7, the first light reflecting planes 211 of the light reflecting sections respectively have first angles "alpha" with respect to the light transmitting surface, the second light reflecting planes 211' of the light reflecting sections respectively have second angles "beta" with respect to the light transmitting surface, and the light reflecting sections 21 each have different heights, wherein the first angles have a substantially identical value, the second angles have a substantially identical value, and the heights are gradually increased by a selected amount such that the height of a light reflecting section is larger as the light reflecting section is remoter from the light incident portion (col. 2, lines 62-64).

Allowable Subject Matter

8. Claims 1, 4, 10 and 13 are allowed.

Re claims 1 and 10, the following is an examiner's statement of reasons for allowance: none of the prior art of record fairly suggests or shows all of the limitations as claimed. Specifically, none of the prior art of record discloses, in combination with other limitations as claimed, a light guide plate comprising the first light reflecting planes of the light reflecting sections respectively having first angles with respect to the light transmitting surface, and the second light reflecting planes of the light reflecting sections respectively having second angles with respect to the light transmitting surface, the first angles having a substantially identical value and the second angles being gradually decreased by a selected amount such that the second angle of a second light reflecting plane is smaller as the second light reflecting plane is remoter from the light incident portion.

The most relevant reference, US 2001/0019379 A1 to Ishihara et al. (Ishihara), fails to disclose or suggest the first angles having a substantially identical value. As shown in Fig. 16, Ishihara discloses a light guide plate 2 comprising the first light reflecting planes 25b of the light reflecting sections 25 respectively having first angles "theta" with respect to the light transmitting surface (rear surface), and the second light reflecting planes 25a of the light reflecting sections 25 respectively having second angles with respect to the light transmitting surface, wherein the first angles are determined such that theta1 < theta2 < ... < thetan, and the second angles are gradually decreased by a selected amount such that the second angle of a second light reflecting plane is smaller as the second light reflecting plane is remoter from the light incident portion due to a constant pitch between the retreated points 19 in the front surface of the light guide plate 2 (paragraphs 65 and 66).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

9. Applicant's arguments filed March 16, 2006 have been fully considered but they are not persuasive.

Applicant argued that Yang fails to discloses the areal sizes of the first light reflecting plane and the areal sizes of the second light reflecting plane are larger as the light reflecting section is remoter from the light incident portion as recited in claims 8

and 14. The Examiner disagrees with Applicant's remarks. As shown in Fig. 2, Yang discloses that the pseudo-planar surfaces 14 (as the second light reflecting planes) should be formed so as to be gradually raised greater as being distanced away from the light source 32 and the slanted surfaces 15 (as the first light reflecting planes) are formed so as to become gradually wider from left to right (col. 4, line 45 through col. 5, line 15). Accordingly, Yang clearly discloses that the areal sizes of the planar surfaces 14 and the areal sizes of the slanted surfaces 15 are larger as being distanced away from the light source.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-

2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms, can be reached at (571) 272-1787.

Thoi Duong

05/23/2006

DUNG T. NGUYEN
PRIMARY EXAMINER

Approved
5/25/06

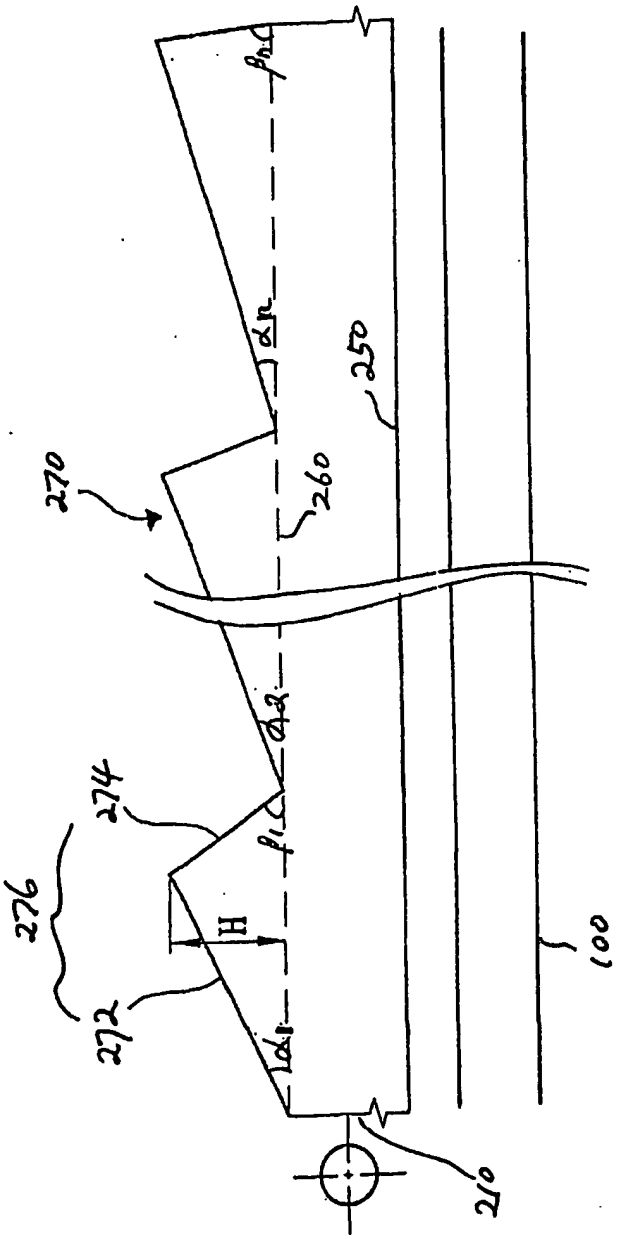

FIG. 8